



UNITED STATES PATENT AND TRADEMARK OFFICE

144
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/220,055	12/23/1998	REINHARD JOHO	0107-0997-3	4017

22850 7590 04/17/2002

OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202

EXAMINER

PEREZ, GUILLERMO

ART UNIT	PAPER NUMBER
----------	--------------

2834

DATE MAILED: 04/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/220,055

Applicant(s)

JOHO ET AL.

Examiner

Guillermo Perez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3-7, 9-13, and 15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Oshima (JP 355086340).

Referring to claim 1, Oshima discloses a laminated stator body (1) for an electrical machine, which laminated stator body (1) is composed of a multiplicity of segmental laminations (see figure 2), each segmental lamination (see figure 2) being provided on a radial inside with slots (2) for accommodating conductors of a stator winding, each slot (2) extending from the radial inside to a root portion nearest to a radial outside of each segmental lamination (see figure 2), with the portion of each

segmental lamination (in figure 2) remaining between the root portion and the radial outside defining a yoke height (see figure 2), wherein each segmental lamination (14) is provided on the radial outside with periodically distributed notches (5) all of equal dimensions including a notch depth that is much less than yoke height (see figure 2), a number and depth of the notches (5) being selected, the notches (5) and slots (2) of actually adjacent segmental laminations (as in figure 2) in the laminated stator body (1) being arranged in alignment with one another to form the laminated stator body (1), the notches (5) being filled only with an atmosphere surrounding the laminated stator body (lines 3-8 of the abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select a specific number and depth for the notches to increase mechanical strength by reducing vibration amplitudes during machine operation since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a number of notches twice as great as the number of slots, or a number of notches equal to the number of slots since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the notch depth in the order of magnitude of 20% of the yoke height; or in the order of magnitude of 40% of the yoke height, since it has been

held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the notches with a width between 0.5 mm and 1 mm since it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

2. Claims 1, 3-7, 10-13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko (JP 401126141) in view of Oshima.

Yoshihiko discloses a laminated stator body (14) for an electrical machine, which laminated stator body (14) is composed of a multiplicity of laminations, each lamination being provided on a radial inside with slots (2) for accommodating conductors of a stator winding, each slot (2) extending from the radial inside to a root portion nearest to a radial outside of each lamination, with the portion of each lamination remaining between the root portion and the radial outside defining a yoke height, wherein each lamination is provided on the radial outside with periodically distributed notches (12) all of equal dimensions including a notch depth that is much less than yoke height (see figure 2), a number and depth of the notches (12) being selected, the notches (12) and slots (2) of actually adjacent laminations in the laminated stator body (14) being arranged in alignment with one another to form the laminated stator body (14), the notches (12) being filled only with an atmosphere surrounding the laminated stator body (14 in figure 2). Yoshihiko does not disclose that the laminations are segmental.

Oshima discloses that the laminations (1) are segmental for the purpose of facilitating the laminating work.

It would have been obvious at the time the invention was made to modify the machine of Yoshihiko and provide it with the segmental laminations disclosed by Oshima for the purpose of facilitating the laminating work.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select a specific number and depth for the notches to increase mechanical strength by reducing vibration amplitudes during machine operation since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a number of notches twice as great as the number of slots, or a number of notches equal to the number of slots since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the notch depth in the order of magnitude of 20% of the yoke height; or in the order of magnitude of 40% of the yoke height, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the notches with a width between 0.5 mm and 1 mm

Art Unit: 2834

since it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

3. Claims 2, 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko in view of Oshima as applied to claim 1 above, and further in view of D. D. Hershberger (U. S. Pat. No. 3, 421, 034).

Yoshihiko and Oshima disclose a laminated stator body as described on item 2 above. However, neither Yoshihiko nor Oshima disclose that the notches end in a relief opening at their radially inner end. Neither Yoshihiko nor Oshima disclose that the notches have a width of between 0.5 mm and 1 mm.

D. D. Hershberger discloses that the notches end in a relief opening (34) at their radially inner end. D. D. Hershberger discloses that the notches have a width of between 0.5 mm and 1 mm (column 4, lines 66 to 71). D. D. Hershberger's invention has the purpose of furnishing a longer non-magnetic path across the slot end so that some of the quadrature flux will be forced through the magnetic bridge for rapidly saturate the bridge.

It would have been obvious at the time the invention was made to modify the laminated stator body of Yoshihiko and Oshima and provide it with the notches and relief openings of D. D. Hershberger for the purpose of furnishing a longer non-magnetic path across the slot end so that some of the quadrature flux will be forced through the magnetic bridge for rapidly saturate the bridge.

4. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko in view of Oshima as applied to claim 1 above, and further in view of Sacher (DE 195 10 729 A1).

Yoshihiko and Oshima disclose a laminated stator body as described on item 2 above. However, neither Yoshihiko nor Oshima disclose that the number notches is twice as great as the number of slots. Neither Yoshihiko nor Oshima disclose that the number of notches is equal to the number of slots.

Sacher discloses that the number notches is twice as great as the number of slots (figure 6). Sacher discloses that the number of notches is equal to the number of slots (figure 5). Sacher's invention has the purpose of interrupting the direct connection between adjacent main poles.

It would have been obvious at the time the invention was made to modify the laminated stator body of Yoshihiko and Oshima and provide it with the notches and slots arrangement of Sacher for the purpose of interrupting the direct connection between adjacent main poles.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko in view of Oshima, and further of D. D. Hershberger as applied to claim 3 above, and further in view of Sacher.

Yoshihiko, Oshima and D. D. Hershberger disclose a laminated stator body as described on item 2 above. However, neither Yoshihiko, Oshima nor D. D. Hershberger disclose that the number notches is twice as great as the number of slots. Neither

Yoshihiko, Oshima nor D. D. Hershberger disclose that the number of notches is equal to the number of slots.

Sacher discloses that the number notches is twice as great as the number of slots. Sacher discloses that the number of notches is equal to the number of slots. Sacher's invention has the purpose of interrupting the direct connection between adjacent main poles.

It would have been obvious at the time the invention was made to modify the laminated stator body of Yoshihiko, Oshima and D. D. Hershberger, and provide it with the notches and slots arrangement of Sacher for the purpose of interrupting the direct connection between adjacent main poles.

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the Notice of References Cited for other references disclosing the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

Application/Control Number: 09/220,055
Art Unit: 2834

Page 9

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez
April 11, 2002


NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800